

ABSTRACT

*Subt-C2*  
A method for determining the ambient concentrations of a plurality of analytes in a liquid sample of volume V litres, comprises

5 loading a plurality of different binding agents, each being capable of reversibly binding an analyte which is or may be present in the liquid sample and is specific for that analyte as compared to the other components of the liquid sample, onto a support means at a plurality of  
10 spaced apart locations such that each location has not more than 0.1 V/K, preferably less than 0.01 V/K, moles of a single binding agent, where K litres/mole is the equilibrium constant of the binding agent for the analyte;

contacting the loaded support means with the liquid  
15 sample to be analysed, such that each of the spaced apart locations is contacted in the same operation with the liquid sample, the amount of liquid used in the sample being such that only an insignificant proportion of any analyte present in the liquid sample becomes bound to the  
20 binding agent specific for it, and

measuring a parameter representative of the fractional occupancy by the analytes of the binding agents at the spaced apart locations by a competitive or non-competitive assay technique using a site-recognition reagent for each  
25 binding agent capable of recognising either the unfilled binding sites or the filled binding sites on the binding agent, said site-recognition reagent being labelled with a marker enabling the amount of said reagent in the particular location to be measured. A device and kit for use  
30 in the method are also provided.